DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION

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DRAFT

ENVIRONMENTAL ASSESSMENT

Project Name:	Armstrong Pivot Installation
Proposed Implementation Date:	May 2022
Proponent:	Armstrong landowners
Location:	Choteau, MT; 24N 4W 11, 12
County:	Teton

I. TYPE AND PURPOSE OF ACTION

The purpose of this pivot project is to extend the range and use of the proponent's current water shares. The pivots would replace previously flood irrigated land. The Montana Department of Natural Resources and Conservation (DNRC) Conservation and Resource Development Division (CARDD) Private Loan would fund a 134-acre center pivot to increase crop production and reduce manual labor. The location of the proposed project is outside of Choteau, Montana, Teton County, Township 24N, Range 4W, Sections 11 and 12 (map attached). Center pivots are known to increase crop production given pivots are more precise and water efficient (Rogers et al. 2017; Mitchell-McCallister et al. 2020; Cai et al. 2020). The consistent application of water would increase productivity in crop yields.

The proposed project will also result decreased soil erosion as the pivot installation applies water more evenly and efficiently. This efficient application results in lower irrigation runoff and therefore less erosion and potential sedimentation.

The project would begin upon funding approval and conclude an estimated four- to six weeks later.

DNRC will approve the loan to provide funding for the Armstrong Center Pivot Installation Project.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project. List number of individuals contacted, number of responses received, and newspapers in which notices were placed and for how long. Briefly summarize issues received from the public.

DNRC will post a draft of this Environmental Assessment for public comment for two weeks on the DNRC – Public Notices webpage. For any comments submitted by the public, the MEPA Coordinator will review and work with the Grant Manager and applicant to adequately address those comments.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:
Examples: cost-share agreement with U.S. Forest Service, 124 Permit, 3A Authorization, Air Quality Major Open Burning Permit.

The proposed project is on private land and proposes to use existing water rights for the pivot installation. If the proposed project will develop or change any of the existing water rights, the applicant will need to provide documentation and/or water right application from the DNRC Water Rights Division.

3. ALTERNATIVE DEVELOPMENT:
Describe alternatives considered and, if applicable, provide brief description of how the alternatives were developed. List alternatives that were considered but eliminated from further analysis and why. Include the No Action alternative.

The applicant provided three alternatives for consideration:

1) Alternative 1 (*Preferred Alternative*): Install either gas- or electricity-powered center pivots
    a. Irrigation sprinkler pivots are known have high water use efficiency as they distribute water more uniformly while using less water overall. This more efficient distribution increases crop production but allows for less manual labor compared with flood irrigation (e.g., reduces the need to either open flood gates or distribute piping). Because pivots can precisely control the amount of water on a field, the soil moisture also increases. This is an important consideration for harvest and second cutting.
    b. The pipeline(s) will cause some initial soil disturbance due to construction and digging; however, the applicant proposes to broadcast-spread grass seed.
    c. This option would be more favorable for instream flows as compared to flood irrigation, because there is no ditch loss or evaporation in the pipeline. Thus, more water would be returned to the stream.

2) Alternative 2: Abandon all irrigation - cease flooding and do not install a pivot
    a. Alternative two would not increase harvest yields on the applicant's proposed pivot conversion plots. Instead, there would be a significant decrease without irrigation.
    b. There would be more water left in the creek without irrigation, increasing instream flows and likely benefiting aquatic biota.

3) Alternative 3: No Action
    a. The applicant would continue to divert water into a ditch for flood irrigation, which would mean continued increased labor and labor costs. Crop production would also continue to be low or even decrease with the inefficient distribution of irrigated water.
    b. This solution does not meet the goals of the applicant in terms of increasing crop production and decreasing labor and associated labor costs.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify direct, indirect, and cumulative effects to soils.

The locations of the center pivots are within the Cretaceous Colorado shale geologic unit (MBMG Geologic Mapping tool, date accessed: 4/19/2022). DNRC used the NRCS Web Soil Survey mapping application and identified Richey silty clay loam (0 to 4% slopes), Marias silty clay (0 to 4% slopes), Kobase silty clay loam (0 to 4% slopes), and Kobase-Marias complex soils (0 to 4% slopes; see attached NRCS Soil Report, data accessed: 4/20/2022). The Richey silty clay loam and Kobase silty clay loam are considered well-drained, nonsaline to very slightly saline, and both are designated as farmland of statewide importance. The remaining soil complexes are designated as well-drained but are not listed as prime farmland or farmland of statewide importance.

Proposed Alternative – Potentially minor, short-term, adverse impacts to the soils during the construction of the pipeline and the tire tracks associated with the pivot wheels. The effects are likely to be minimal as the ground has been disturbed with the established agricultural activities on the plots.

No Action – There will be no impacts to the current irrigation canal system as the irrigated waters will continue to flow through the current canal; however, there may be some continued and/or increased erosion with the use of flood irrigation. Specifically, irrigation runoff transports sediment, resulting in topsoil loss and decreased crop productivity (Bjornberg and Sojka 2001).

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify direct, indirect, and cumulative effects to water resources.

The applicant appears to be located on what is known as the 'Burton Bench' and proposes to replace their current headgate structure with a pump. The proponent will continue using irrigation waters from a lateral irrigation canal which is sourced from the nearby Eureka Reservoir, which receives its waters from the Teton River to the northwest of the city of Choteau (Todd Blythe, DNRC Hydrologist, Water Management Bureau, personal communication). The irrigation runoff would return to Gamble Coulee, which appears to be an ephemeral stream. There is a storage water right just downstream from the applicant's point of use (POU) to water 100 acres. Therefore, any potential return flows from this project are likely captured by the downstream user(s).

Groundwater levels appear relatively shallow, ranging in static water level depths of 11 to 40 feet below ground surface (Montana Bureau of Mines and Geology, Groundwater Information Center Web mapping application. Date accessed: 4/21/2022).

Proposed Alternative – Potentially no impact to water quality, quantity, or distribution from the current infrastructure as the project proponent will continue using their full water right. However, there are generally beneficial impacts to the water quantity and quality as installing a center pivot in place of flood irrigation has known water use efficiency savings. In addition, the uniform application of water may produce less irrigation runoff, and subsequently any excess sediment or nutrients/pathogens introduced to the ephemeral stream will likely be lessened.

No Action – Flood irrigation will continue to be less efficient and require more water usage to sufficiently supply crops, which does not allow for any potential water savings for instream flows. In addition, the excess irrigation runoff likely impacts water quality through increased stream temperatures and excess sedimentation or nutrient loading to the stream.

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6. AIR QUALITY:

What pollutants or particulate would be produced (i.e. particulate matter from road use or harvesting, slash pile burning, prescribed burning, etc)? Identify the Airshed and Impact Zone (if any) according to the Montana/Idaho Airshed Group. Identify direct, indirect, and cumulative effects to air quality.

The project area is not listed as impaired in air quality particulates per the Montana DEQ Air Quality Nonattainment Status list (Source: Montana DEQ Air Quality Website visit).

Proposed Alternative – Potentially adverse impacts to air quality associated with construction; however, these impacts are expected to be minor and short-term as construction time is expected to be relatively short in comparison to the life expectancy of the project.

No Action – No impact to current air quality.

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7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify direct, indirect, and cumulative effects to vegetation.

The project area is primarily within private, cultivated crop- and pasturelands (at least >90% drawn area of interest; Montana Natural Heritage Program Map Environmental Summary Report attached below – date retrieved 4/21/2022). Cultivated crops make up much of the project area, with minimal Great Plains Mixed Grass Prairie making up the remainder of the land cover types for the drawn area of interest. There is one plant Species of Concern that may occur in the project area (Montana Natural Heritage Program Map Environmental Summary Report attached below – date retrieved 4/21/2022).

Proposed Alternative – Potentially beneficial as the pivot will provide improved water delivery, which is expected to better crop production. Better crop production may in turn protect sensitive or fragile plant species by reducing extensive erosion associated with other cattle grazing and movements.

No Action – The local grassland community may be minimally impacted by the current crop/pasture management. Therefore, the current vegetation may not be significantly impacted if there was no change to the environment.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify direct, indirect, and cumulative effects to fish and wildlife.

The proposed pivot location is primarily within private, cultivated cropland. The proposed pivot is near Gamble Coulee, a small, ephemeral prairie stream. Sampling by Montana FWP has found Northern Redbelly Dace and Northern Redbelly Dace X Finescale Dace in the nearby stream. The project area does not fall within an Executive Order – General/Priority habitat area for Sage Grouse, and therefore will not likely impact sage grouse habitat (DNRC Montana Sage Grouse Habitat Conservation Map). The project area does not appear to be impacting any Federal crucial and/or critical habitat areas; (https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77) however, there have been Grizzly Bears (*Ursus arctos horribilis*) observed in the nearby vicinity of the project area. The region is in the Pacific Flyway for migratory birds (Montana Fish, Wildlife and Parks, Migratory Bird Flyways web mapping application. Date Accessed: 4/21/2022).

Proposed Alternative – Potentially no impact as the proposed project occurs primarily within private, cultivated cropland and the applicant would continue to use their full water right, negating any benefit from increased instream return flows.

No Action – Flood irrigation would continue to supply the proposed piece of cropland. The terrestrial or aquatic species and/or habitats could be negatively impacted by flood irrigation in the long-term as this method can be largely inefficient, and thus requires more of a given water right used for irrigation, decreasing the ability to save water and perhaps increase instream flows. Flood irrigation may also prove inefficient with decreased snowpack and/or runoff years, putting sensitive aquatic species at risk through loss of habitat or increases in water temperatures associated with low water quantities.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify direct, indirect, and cumulative effects to these species and their habitat.

DNRC used the National Wetlands Inventory (NWI) website to determine if wetlands were present within the lands adjacent to the project location (map attached in this assessment). This search indicated there are wetlands present within one (1) mile of the proposed project area.

There are four species of concern listed as potentially using the area as viable habitat. (Source: Montana Fish, Wildlife, and Parks FishMT; Montana Natural Heritage Program Environmental Summary – date accessed 4/21/2022). DNRC also used the U.S. Fish and Wildlife Service IPaC tool to generate a resource list summarizing any endangered or threatened species that are known or expected to be on or near the project area. The IPaC list generated two (2) Federally listed species as potentially occurring in the greater project area: the Grizzly Bear and Monarch Butterfly (USFWS IPaC report. Date accessed: 4/21/2022).

Proposed Alternative – Potentially minimal beneficial and adverse impacts as the project would install two pivots on previously open ground, where Grizzly Bear may later avoid the area. This avoidance may prove beneficial, as this avoidance would limit human-bear interactions and lessen the probability of a lethal bear removal.

No Action – Flood irrigation would continue to supply the proposed piece of cropland. Wetlands and other unique, endangered, or fragile resources in the area could be negatively impacted by flood irrigation in the long-term as this method can be largely inefficient, and thus requires more of a given water right used for irrigation, decreasing the ability to save water and perhaps increase instream flows which may have groundwater/hyporheic connections.

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10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine direct, indirect, and cumulative effects to historical, archaeological or paleontological resources.

The project area is primarily on private, cropland and irrigated fields with no known historic or archeological resources in the area.

Proposed Alternative – No impact is expected as there have been no historic or archaeological resources identified in the proposed project area; however, given there has never been a SHPO survey, it is unknown if there are potential cultural resources that could be disturbed while installing the pipeline. In addition, using a pivot system creates increased crop production, which could obscure other cultural resources. If previously unknown cultural or paleontological materials are identified during project related activities, the DNRC grant manager will be notified, and all work will cease until a professional assessment of such resources can be made.

No Action – No impact to historical or archaeological sites.

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11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify direct, indirect, and cumulative effects to aesthetics.

The project area is on rural private property which is comprised primarily of cultivated cropland and/or Great Plains Mixed Grass Prairie. In addition, the project area is nearly six miles northeast from the city of Choteau and well outside of populated, residential areas.

Proposed Alternative – No impact is expected to visual quality, nor will the project cause nuisance (e.g., glare, fumes) as the proposed pivot is on private lands.

No Action – no impact to aesthetics.

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12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify direct, indirect, and cumulative effects to environmental resources.

The project area is primarily on private, crop- and pasturelands and will be developing pivot irrigation. The applicant appears to be located on what is known as the 'Burton Bench' and proposes to replace their current headgate structure with a pump. The proponent will continue using irrigation waters from a lateral irrigation canal which is sourced from the nearby Eureka Reservoir.

Proposed Alternative – Potentially adverse impacts as using the pivot would increase the demand for energy or gas, depending on the proponent's decision for using either power source. In addition, there would be noise and exhaust from the use of the diesel motor pump.

No Action – There would continue to be a demand on water for flood irrigation.

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13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

- DNRC Water Rights Permit

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

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14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

The project area currently uses flood irrigation, which requires significant manual labor to change dams and work with the irrigation infrastructure.

Proposed Alternative – Potentially beneficial as there will be decreased driving time for maintaining the irrigation infrastructure.

No Action – The applicant would continue to implement flood irrigation, thus putting their workers at risk with the additional driving that must occur to maintain the irrigation infrastructure.

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15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

The proposed area is currently used for flood-irrigated cropland. The total acreage of the proposed pivot locations is approximately 302.1 acres, for a total market value of $634,452 (loan application). The applicant currently farms flax, gluten-free oats, yellow peas, malt barley, and chickpeas for a total crop production value of $1,777,365.

Proposed Alternative – Potentially beneficial as a center pivot can distribute water more uniformly and efficiently, which will increase production as water will reach the entire area irrigated. The potential additional crop production from the efficient water application is estimated at a total value profit of $3,552,937 (includes all crops grown, in addition to those presently listed above), or approximately $1,775,572 more than the current crop income.

No Action – There would be no change in the current revenues from current production on the

proposed area, and thus any increase in profits would be if the market prices of the applicant's various crops were to increase. The no action alternative may be cumulatively adverse if the costs of labor were to increase and the revenues from this production area to remain constant.

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16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify direct, indirect, and cumulative effects to the employment market.

The city of Choteau has an estimated 56.1% employment rate (data.census.gov). Within those employed, 48.9% are employees of private companies. Management, business, service, sales and office, financial, natural resources, construction, and maintenance occupations (e.g., Farming, fishing, forestry, construction and extraction, and installation/maintenance and repairs) make up much of the workforce for the city of Choteau (data.census.gov – City profile).

Proposed Alternative – Long term, the proposed project will have adverse impacts to employment as the installation of a center pivot would reduce the need for ranch employees to maintain the current flood irrigation infrastructure. There will be short-term, beneficial impacts as a contractor is expected to install the water infrastructure equipment. The employment will be the duration of the project, which is expected to be implemented and finished in a rapid timeline.

No Action – There will be no impact to the quantity and distribution of the current employment.

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17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify direct, indirect, and cumulative effects to taxes and revenue.

Current value from the proposed project area, which has a total acreage of approximately 302.1 acres, for a total market value of $634,452 (loan application). The taxable value of the properties owned by the applicant appear to be $864 in 2020, $818 in 2021, and $1,729 in 2022 (Montana Property Assessment Division, https://svc.mt.gov/dor/property).

Proposed Alternative – Potentially beneficial as the proposed alternative will provide more efficient water delivery and distribution, thus increasing crop production. Given the crop product could be sold within Choteau and the greater area, there are likely local and state revenue benefits.

No Action – No impact is expected to local and state tax base and tax revenues.

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18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify direct, indirect, and cumulative effects of this and other projects on government services

The project is on rural, private farm- and pastureland and approximately six miles northeast of Choteau and therefore outside of any need for government services.

Proposed Alternative and No Action – No impact to demand for government services.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

The project is on rural, private cropland and any action is voluntarily adopting any local environmental plans. The proposed area is not within critical habitat for Sage Grouse or other sensitive species, and therefore not subject to necessary permits/coordination with state agencies. There are no other known zoning or management plans for the proposed area.

Proposed Alternative & No Action – No impact to locally adopted environmental plans or goals.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify direct, indirect, and cumulative effects to recreational and wilderness activities.

The project is on rural, private farm- and pastureland and is primarily surrounded by private, rural landowners.

Proposed Alternative and No Action – No impact is expected to the access or quality of recreational or wilderness as the project is occurring within private land.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify direct, indirect, and cumulative effects to population and housing.

The population of Choteau in 2020 was approximately 1,721 individuals, with approximately 77.4% 18 years and over (City profile, data.census.gov). In addition, there are approximately 798 housing units in Choteau and the median household income is $52,500 (City profile, data.census.gov). The poverty line is 11.5% for the City.

Proposed Alternative – No impact is expected to the county population. Given the project is expected to be short-term and performed by the applicant/landowner and local contractor, no additional housing is expected.

No Action – No impact to density and distribution of population and housing.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

The project area is largely made up of rural, cultivated cropland and/or Great Plains Mixed Grass Prairie (Source: Montana Natural Heritage Program). The agricultural way of life provides the one of the most common type of lifestyle/community for the county/area.

Proposed Alternative – No impact is expected to change social structures and/or lifestyles from the project, but it may enhance the current communities and lifestyles. By creating more efficient water delivery, the project will likely conserve groundwater and/or surface water sources.

No Action – No impact to social structures is likely given the area is primarily on private land.

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23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

Agricultural lands sustain the way of life for Teton County, and the greater Choteau area, providing local and regional food supply for the overall area.

Proposed Alternative and No Action – No impact is expected to the cultural uniqueness and/or diversity to the project area given the project is on private land.

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24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify direct, indirect, and cumulative economic and social effects likely to occur as a result of the proposed action.

The proposed project is located on private land and there are no defined management strategies benefiting the current social and economic circumstances of the area.

Proposed Alternative – No impact is expected to additional social or economic circumstances as the project is on private lands; however, more efficient watering facilities may increase crop production to some extent and therefore benefit the local area for a long-term, cumulative impact.

No Action – No impact to social or economic circumstances.

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25. DRINKING WATER AND/OR CLEAN WATER

Identify potential impacts to water and/or sewer infrastructure (e.g., community water supply, stormwater, sewage system, solid waste management) and identify direct, indirect, and cumulative effects likely to occur as a result of the proposed action.

The proposed project is located on private land and there are no community water supplies nor is the project near the City to impact stormwater or a public sewer system.

Proposed Alternative and No Action – No impact to drinking water and/or clean water resources.

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26. ENVIRONMENTAL JUSTICE

Will the proposed project result in disproportionately high or adverse human health or environmental effects on minority or low-income populations per the Environmental Justice Executive Order 12898? Identify potential impacts to and identify direct, indirect, and cumulative effects likely to occur as a result of the proposed action.

The project area is largely made up of rural, cultivated cropland and/or Great Plains Mixed Grass Prairie (Source: Montana Natural Heritage Program). The agricultural way of life provides the one of the most common type of lifestyle/community for the county/area. In addition, the City of Choteau is 11.5% below the poverty line.

Proposed Alternative and No Action – Likely no impact to environmental justice given the nature of the project.

EA Prepared By:	**Name:** Demitra Blythe **Title:** CARDD MEPA/NEPA Coordinator **Email:** Demitra.Blythe@mt.gov	**Date:** 4/22/2022

V. FINDING

27. ALTERNATIVE SELECTED:

1) Alternative 1 (*Preferred Alternative*): Install either gas- or electricity-powered center pivots
   a. Irrigation sprinkler pivots are known have high water use efficiency as they distribute water more uniformly while using less water overall. This more efficient distribution increases crop production but allows for less manual labor compared with flood irrigation (e.g., reduces the need to either open flood gates or distribute piping). Because pivots can precisely control the amount of water on a field, the soil moisture also increases. This is an important consideration for harvest and second cutting.
   b. The pipeline(s) will cause some initial soil disturbance due to construction and digging; however, the applicant proposes to broadcast-spread grass seed.
   c. This option would be more favorable for instream flows as compared to flood irrigation, because there is no ditch loss or evaporation in the pipeline. Thus, more water would be returned to the stream.

28. SIGNIFICANCE OF POTENTIAL IMPACTS:

DNRC did not find significant adverse impacts to many of the resources presented within this EA apart from minor soil disturbance and water quantity loss. The soil disturbance is already occurring within a disturbed area as the proposed pivot areas are currently farmed land. The water quantity loss may be offset by the reduction in irrigation runoff and input to the local groundwater aquifer. The employment needs are a factor of changing industries and agricultural practices, and thus offset may be mitigated with other employment opportunities in different, but similar, sectors.

29. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

☐ EIS ☐ More Detailed EA ☒ No Further Analysis

EA Approved By:	**Name:** Mark Bostrom **Title:** CARD Division Administrator	
Signature: DocuSigned by: Mark W Bostrom BE7A1C50B2AE4DE...		**Date**: 5/6/2022 | 9:52:51 AM MDT

Literature Cited

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MONTANA VALLEY IRRIGATION

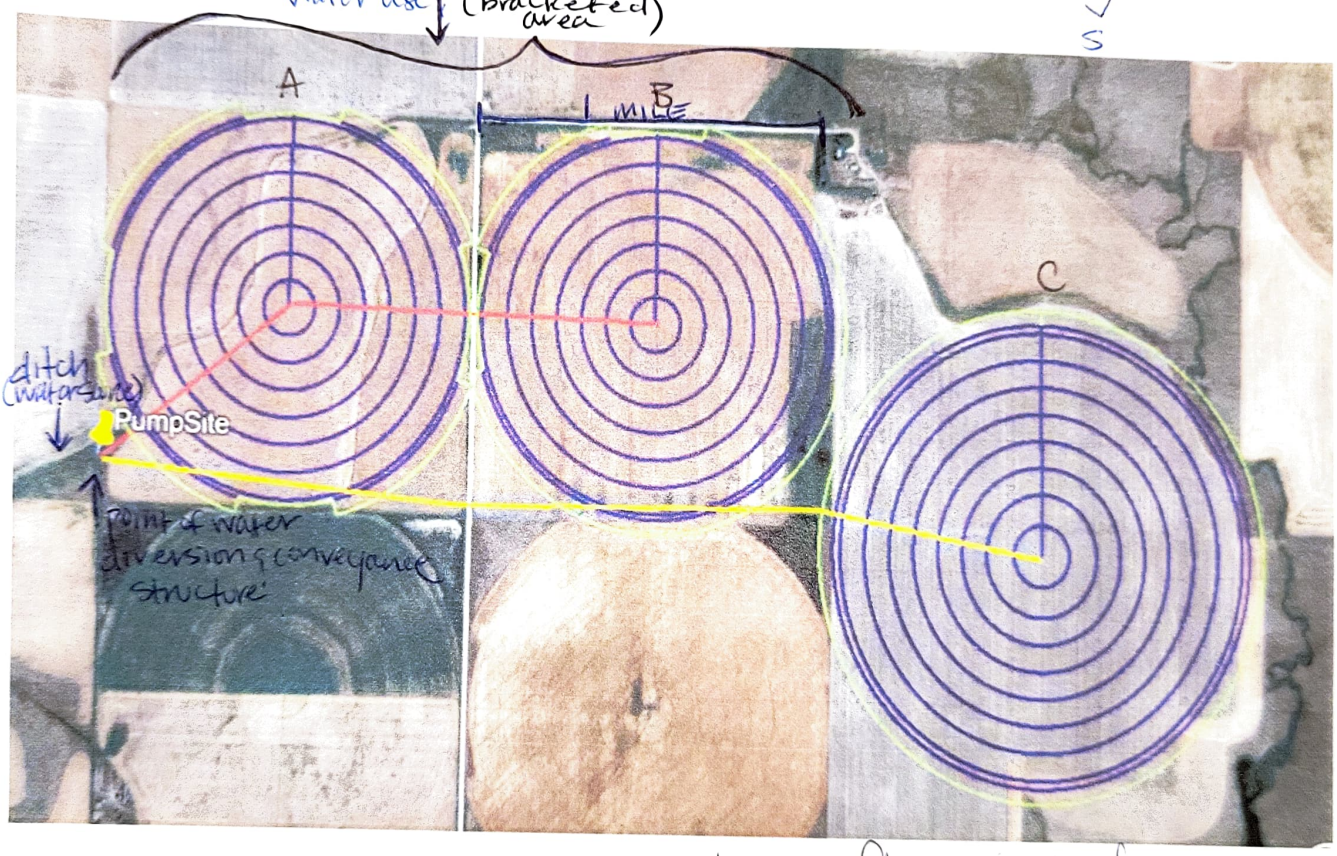
VALLEY
The Leader in Precision Irrigation

Customer: Sam Armstrong (Rays Place)
Date: 3/19/2022

12-24N-4W
11-24N-4W

Pivot 1 and 2
Machine Length: 1296'
Irrigated Acres: ~134

RAY'S EAST & WEST PIVOTS



- The picture shows the historically irrigated acres. The proposed project is only for A & B pivots the "C" pivot was just to show what was possible by the company (Montana Valley).

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
Phone: (406) 449-5225 Fax: (406) 449-5339

In Reply Refer To:
Project Code: 2022-0034673
Project Name: Armstrong Pivot Installation

April 21, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
(406) 449-5225

Project Summary

Project Code: 2022-0034673
Event Code: None
Project Name: Armstrong Pivot Installation
Project Type: Irrigation
Project Description: The purpose of this pivot project is to extend the range and use of the proponent's current water shares. The pivots would replace previously flood irrigated land. The Montana Department of Natural Resources and Conservation (DNRC) Conservation and Resource Development Division (CARDD) Private Loan would fund a 134-acre center pivot to increase crop production and reduce manual labor. The location of the proposed project is outside of Choteau, Montana, Teton County, Township 24N, Range 4W, Sections 11 and 12 (map attached). Center pivots are known to increase crop production given pivots are more precise and water efficient (Rogers et al. 2017; Mitchell-McCallister et al. 2020; Dong-Yu et al. 2020). The consistent application of water would increase productivity in crop yields.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@47.8533665,-112.07002218573103,14z

Counties: Teton County, Montana

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Grizzly Bear *Ursus arctos horribilis* Population: U.S.A., conterminous (lower 48) States, except where listed as an experimental population There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7642	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

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